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UTRICULARIA CORNUTA (LENTIBULARIACEAE) NEW TO THE ARKANSAS AND OKLAHOMA FLORA

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ABSTRACT

Utricularia cornuta is documented as new to the flora of Arkansas and Oklahoma. It is known from the West Gulf Coastal Plain by one collection from Calhoun County, Arkansas, and one collection from Pushmataha County, Oklahoma, apparently at the northwestern edge of the distribution of the species. The Arkansas collection was made summer of 2004 and Oklahoma collection during the summer of 2014.

Utricularia cornuta Michx. (Lentibulariaceae), commonly called horned bladderwort, is an annual to perennial aquatic or terrestrial wetland plant bearing bladders for capturing minute animal life. The plant is terrestrial, usually in nutrient-poor peat or moist sand, or aquatic in floating mats. The flowering stems (scapes) are erect, numerous, to about 35 cm tall, with few scale-like bracts, and 1–9 yellowish, 2-lipped flowers near the summit. Plants flower from May to September. The species is widely distributed in the eastern USA and Canada — it is most abundant along the Gulf Coast and southern Atlantic coast and from Minnesota across the Great Lake region to Maine, but apparently rare elsewhere (USDA, NRCS 2014; Kartesz 2014).

Utricularia cornuta in reference to the flora of Arkansas is neither included in the Annotated List of the Vascular Plants of Arkansas (Smith 1988) or Keys to the Vascular Plants of Arkansas (Smith 1994). In The PLANTS Database (USDA, NRCS 2014), *Utricularia cornuta* is referenced as native to the state of Arkansas but without county location and apparently without supporting data (a specimen citation or reference to one). It is mapped for Calhoun County in Gentry et al. (2014) and Kartez (2014) on the basis of the specimens cited below, but no information is provided aside from the county-level distribution. *Utricularia cornuta* in reference to the flora of Oklahoma is included neither in the Keys to the Flora of Oklahoma (Waterfall 1966), Checklist of the Flora of Oklahoma (Taylor and Taylor 1994), Oklahoma Vascular Plants Database (Hoagland et al. 2004), Keys and

Descriptions for the Vascular Plants of Oklahoma (Tyrl et al. 2010), The PLANTS Database (USDA, NRCS 2014), nor The Biota of North America Program (Kartesz 2014).

Based upon specimens cited below, *Utricularia cornuta* may now be documented as part of the flora of Arkansas and Oklahoma.

Voucher specimens: **USA**. **Arkansas.** Calhoun Co.: 3.3 mi. SW of Harrell, W of CR 116 and S of gas pipeline right-of-way, within abandoned railroad right-of-way, vicinity of 33°28'12.00" N, 92°25'54.01" W (Artesian 7.5' quadrangle), 15 May 2004, *Witsell 04-0397* (with Pagan, Sundell, Pelton, Amason) (ANHC); same date and location, *Sundell 16,935B* (with Pagan, Witsell, Pelton, Amason) (UAM) (Figure 3). **Oklahoma.** Pushmataha Co.: Junction of Indian Nation Turnpike and OK Hwy 3, ca. 0.3 mi N of junction of Indian Nation Turnpike/OK Hwy 3, E side, 0.4 mi N of the jct. of OK Hwy 3 and Indian Nation Turnpike on Indian Nation Turnpike in hillside bog in right-of-way on the E side of Indian Nation Turnpike (34°14'25.78" N, 95°39'8.95" W), 9 Aug 2014, *J. Singhurst 20,830* with L., A., and R. Singhurst (BAYLU, OKL). Figures 1 and 2.

The nearest documented occurrences of *Utricularia cornuta* to the reported Arkansas site is 210 km to the south in Natchitoches Parish, Louisiana (Thomas & Allen 1998) and 180 km to the southwest at Caddo Lake, Marion County, Texas *(Singhurst, Adams, and Fitch 15358B*, BAYLU). The record nearest to the Oklahoma site is 155 km south to Wood County, Texas (*Holmes and Singhurst 12917* and *12917*, BAYLU). The Arkansas and Oklahoma occurrences apparently represent the northwestern limits of the distribution of the species.

Figure 1. Hillside bog with *Utricularia cornuta* in Pushmataha County, Oklahoma. Photo by Jason Singhurst.

In Calhoun County, Arkansas, *Utricularia cornuta* occurred scattered patches over an 0.5 × 3 meter area on wet mineral soils in an open herbaceous seepage wetland at the topographic break between the "Intermediate Terrace" and "Prairie Terrace" geomorphic surfaces of the Pleistocene Fluvial Terraces (EPA Level IV) Ecoregion (a series of ancient terraces of the Saline and Ouachita Rivers). Seven plants of *U. cornuta* were observed in full flower. Associated species include *Cyperus haspan*, *Dichanthelium scabriusculum*, *Doellingeria sericocarpoides*, *Eleocharis tortilis*, *Eriocaulon decangulare*, *Eryngium integrifolium*, *Eupatorium rotundifolium*, *Fuirena bushii*, *Helianthus angustifolius*, *Juncus* spp., *Lycopodiella appressa*, *Mitreola sessilifolia*, *Myrica heterophylla*, *Osmunda regalis*, *Paspalum laeve*, *Paspalum praecox*, *Platanthera cristata*, *Pluchea foetida*, *Polygala nana*, *Pseudolycopodiella caroliniana*, *Rhexia mariana*, *R. virginica*, *Rhynchospora glomerata*, *R. gracilenta*, *R. inexpansa*, *R. rariflora*, *Scleria muehlenbergii*, *Sisyrinchium atlanticum*, *Sphagnum* spp., *Utricularia gibba*, *Woodwardia areolata*, *Woodwardia virginica*, *Xyris ambigua*, *Xyris baldwiniana*, and *Xyris torta*.

In Pushmataha County, *Utricularia cornuta* appears restricted to Oklahoma Acidic Hillside Seeps (Nature Serve 2014) surrounded by the Antlers Sand Formation. These hillside seeps are highly localized and isolated wetlands in southeast Oklahoma that include a number of disjunct West Gulf Coastal Plain flora at their northwest range limits. Oklahoma Acidic Hillside Seep dominant species include *Andropogon virginicus*, *Dichanthelium scoparium*, *Boehmeria cylindrica*, *Sphagnum* spp., and *Polytrichum commune*. Other characteristic flora of the two hillside seeps include *Baccharis halimifolia*, *Drosera brevifolia*, *Carex* spp., *Cyperus strigosus*, *Eleocharis tortilis*, *Eriocaulon decangulare*, *Eupatorium perfoliatum*, *E. rotundifolium*, *Gratiola pilosa*, *Hydrolea ovata*, *Juncus validus*, *Helianthus angustifolius*, *Lycopodiella appressa*, *Ludwigia hirtella*, *Mitreola petiolata*, *Osmunda cinnamomea*, *O. regalis*, *Oxypolis rigidior*, *Pluchea foetida*, *Rhexia mariana*, *R. virginica*, *Rhynchospora caduca*, *R. gracilenta*, *R. rariflora*, *Rubus argutus*, *Scleria sp.*, *Utricularia juncea*, *U. subulata*, *Xyris difformis*, and *X. jupicai*. The *U. cornuta* population is restricted to a 1 m x 1 meter patch along a perennial seep run.

Figure 2. *Utricularia cornuta* in hillside bog in Pushmataha County, Oklahoma. Photo by Jason Singhurst.

Figure 3. Photo of lower lip with a prominent, downward pointing spur of *Utricularia cornuta* in Calhoun County, Arkansas. Photo by John Pelton, 15 May 2004.

Utricularia cornuta is ranked S1 by the Arkansas Natural Heritage Program and will be ranked S1 by the Oklahoma Natural Heritage Inventory, indicating that it is "critically imperiled in the state because of extreme rarity or because of some factor(s) such as very steep declines in populations making it especially vulnerable to extirpation from the jurisdiction" (Arkansas Natural Heritage Commission (2014), Oklahoma Natural Heritage Inventory (2014), and NatureServe Explorer (2014).

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